

## 5 ABSTRACT

### A DECODER FOR A WIRELESS COMMUNICATION DEVICE

A decoder for a wireless communication device comprising a calculator for  
10 calculating the modulo of a linear approximation of a MAX\* function; and a selector  
for selecting a MAX\* output value from the group  $a(n) \bmod F$ ,  $b(n) \bmod F$ , and the  
calculated modulo based upon a determination as to whether a predetermined  
threshold value for  $|a(n) - b(n)|$  has been met, where  $a(n)$  is a first state metric,  $b(n)$   
is a second state metric,  $C$  is the predetermined threshold value and  $F$  is a value  
15 greater than  $|a(n) - b(n)|$ .

(Figure 4)

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